



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,102	07/17/2000	Richard S. Orr	0918.0095C	7328

7590 01/16/2004

Patrick Finnan, Esq.
EPSTEIN, EDELL, SHAPIRO AND FINNAN
Suite 400
1901 Research Boulevard
Rockville, MD 20850

EXAMINER

NGUYEN, VAN KIM T

ART UNIT	PAPER NUMBER
----------	--------------

2661

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/618,102

Applicant(s)

ORR, RICHARD S.

Examiner

Van Kim T. Nguyen

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to communications filed on October 10, 2003.

Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15, 29, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Wildauer et al (US 5,903,555).

As shown in Figs. 1-7, Wildauer discloses evaluating (mapping) on a chip by chip basis a logic value of the input signals (in-phase data bits and quadrature data bits), and generating a single constant envelope output signal (power signal), a value of the single output signal being based on a function of the logic values of the input signals (col. 4: lines 51 – col. 5: line 8; col. 6: line 46 – col. 7: lines 59).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art, in view of Honkasalo et al (US 6,064,663), and further in view of Wildauer et al (US 5,903,555).

As shown in Fig. 2 of the admitted prior art, the present IS-95 forward link waveform structure in a CDMA communication system has multiplicity of user data channels (Channel 1, ..., Channel N), comprising a baseband filter (16, 17) for baseband filtering the I and Q channels, a multiplexer (18, 19), and an upconverter (18, 19) for upconverting the baseband filtered signals and broadcasting the upconverted baseband filtered signals at RF.

However, the admitted prior art does not call for baseband filtering the I/Q channels after multiplexing by the common multiplexer.

As shown in Figs. 1-11, Honkasalo teaches baseband filtering (138, 346, 718, 721) the I and Q channels after multiplexing by the common multiplexer (122, 328, 706; cols 1-22).

Since it is highly desirable to flexibly transmit varying rates of data in a CDMA telecommunications system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Honkasalo's method of baseband filtering after multiplexed I and Q signals, motivated by the needs to optimize the use of existing system resources and the desire to satisfy different data transmission requirements.

The combination of admitted prior art and Honkasalo disclose a method of improving QoS in a spread spectrum, chip synchronous CDMA communication system comprising separately multiplexing the I and Q channels into two baseband signals; baseband filtering both baseband signals to produce baseband filtered signals; upconverting both baseband filtered

Art Unit: 2661

signals to RF; combining both upconverted signals in quadrature at RF; and broadcasting the upconverted baseband filtered signals at RF.

However, the combination of admitted prior art and Honkasalo does not call for separately multiplex the I and Q channels into two separate constant envelopes.

As shown in Figs. 1-7, Wildauer teaches separately multiplex the I and Q channels into two separate constant envelopes (col. 15: line 37 – col. 16: line 55).

Since in theory, a constant power input signal would pass through a non-linear amplifier without distortion, it is desirable that the transmitted signals have nearly constant power to avoid spectral regrowth. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Wildauer's method of separately multiplexing the I and Q channels into two separate constant envelopes in the combination of admitted prior art and Honkasalo's system, motivated by the need to improve the overall quality of service and increase the power usage efficiency of the communication system.

Allowable Subject Matter

Claims 2-6, 8-12, 16-27, 29-35, and 37-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Barak et al (US 6,587,511); Klomsdorf et al (US 6,556,814); Weaver, Jr. et al (US 6,515,961); Booth et al (US 6,512,417); Ohlson et al (US 6,396,826); Hunton (US 6,449,303);

Art Unit: 2661

Feher (US 6,445,749); Grange et al (US 6,404,823); Popovic (US 6,393,047); Park et al (US 6,373,902); Alberth, Jr. et al (US 6,349,216); Gardner et al (US 5,848,105).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Van Kim T. Nguyen whose telephone number is 703-305-7692.

The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

vkn


DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600